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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,522	08/17/2001	Alan F. Evans	SP00-271	4296
22928	7590	11/20/2003	EXAMINER	
CORNING INCORPORATED			DUVERNE, JEAN F	
SP-TI-3-1			ART UNIT	
CORNING, NY 14831			PAPER NUMBER	

2839

DATE MAILED: 11/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/932,522

Applicant(s)

EVANS ET AL.

Examiner

Jean F. Duverne

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 15 August 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 14-29, 35-41 and 49-56 is/are rejected.
- 7) ☐ Claim(s) 5-13, 30-34, and 42-48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 14-19, 28, 35-40, 49-51 are rejected under 35 U.S.C. 102(b) as being anticipated by Maxham et al (US005374973A).

In regard to claims 1-3, 14, 28, 35-37, Maxham's device discloses an optical amplifier system (see abstract) comprising: an optical fiber adapted for use as optical waveguide amplifier (see cols. 3-4), at least one optical pump at 52 optically coupled to the optical fiber, the pump receiving both a DC electrical input and AC electrical input, and providing an optical pump power to the optical fiber having both a DC optical power component and an AC optical power component; an optical pump power detector (col. 2, lines 61-68, col. 3, lines 1-24), an optical pump power detector (22 or 68) optically coupled to the pump; and at least one controller coupled to the power pump detector to determine the DC optical power component of the optical pump power, the fiber is the optical signal transmission fiber and dispersion compensation fiber (figs. 1-3; including multiple amplifiers (see cols. 1-2), the pump being orthogonally disposed in polarization .

In regard to claims 38-40, 49-51, Maxham's device discloses the aforementioned limitations including the method of controlling optical fiber (see claims 11-25).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4, 29, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maxham et al (US005374973A) in view Conradi (US006490077B1).

Maxham's device discloses the aforementioned limitations but fails to disclose the use of Raman optical waveguide for the amplifier. Conradi's device discloses use of Raman optical waveguide for the amplifier. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Raman optical waveguide for the amplifier (RFA) instead of the doped fiber amplifier (EDFA) such as the one discloses in Conradi's device in order to use the adjustable gain profile in Maxham's device (both system behaving similarly for the pump gain features).

4. Claims 14-24, 52-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maxham et al (US005374973A) in view Emori (Optical Fiber communication conference).

In regard to claims 14-19, Maxham's device discloses the aforementioned limitations but fails to disclose the use the multiple pumps with different wavelengths. Emori's device discloses the use of the multiple pumps with different wavelengths. It would have been obvious to one having ordinary skill in the art at the time the invention

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was made to use the multiple pumps with different wavelengths such as the one discloses in Emori's device in order to achieve broadband flat gain in Maxham's device.

In regard to claims 20-24, 52-56, Maxham's and Emori's devices disclose the aforementioned limitations but fail to disclose the specific range for the wavelength. It would have been obvious to one having ordinary skill in the art at the invention was made to use the specific range for the wavelength, since it has been held that discovering where the general conditions of a claim are disclosed in the prior art, discovering the optimum or the workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. It would have been obvious to one having ordinary skill in the art at the invention was made to use the specific range for the wavelength to improve the broadband system in Maxham's device.

Conclusion

Allowable Subject Matter

5. Claims 5-13, 30-34, and 42-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art fails to disclose the combination features comparing the pump signal that is proportional to optical pump power to the square of the electrical pump signal with the rest of the claims limitations.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean F. Duverne whose telephone number is (703) 872-9306. The examiner can normally be reached on 9:00-7:30, Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (703) 308-2710. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

J. F. Duverne

11/11/ 2003



Jean Frantz Duverne
Primary Examiner
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